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| 09/912,129      | 07/24/2001  | Mary Louise Mandich  | Mandich 9-10        | 4928             |

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12/13/2002

Docket Administrator  
Lucent Technologies, Inc.  
Room 3J-219  
101 Crawfords Corner Road  
Holmdel, NJ 07733-3030

EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 12/13/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/912,129

Applicant(s)

MANDICH ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-25, 28-39, 41, 42 and 44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-39, 41-42 and 44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Allowable Subject Matter***

Claims 1-10 , 12-26 and 28-30 are allowed.

### ***Claim Rejections - 35 USC § 103***

Claims 34-39, 41-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhandarkar 5356447 in view of Shintani 4264347.

Bhandarkar teaches the invention as claimed except for the use of specific gas, col. 3, line 55 to col. 4, line 26. Instead, Bhandarkar discloses that some routine experimentation was performed to determine the most optimal gas (col. 4, line 8). It would have been obvious to perform additional routine experimentation to determine what the best gas is. At col. 7, lines 16-43, col. 2, lines 28 Shintani teaches which gases can be used to remove impurities from silica fiber preforms. And/or would have been obvious to use any of the Shintani gases for the Bhandarkar gases because it is the mere substitution of one known cleaning gas for another. Further it is noted that the claim gas is a homomorph of the Bhandarkar preferred gas - it just has one substituted Group VIB atom (sulfur) for another Group VIB atom (oxygen). Further, col. 4, lines 19-26 spell out what one needs for a reactant. It is inherent that the glass is treated by the gas at all temperatures from about room temperature to the final temperature - including all temperatures within the 400-800C range.

In addition, it would have been obvious to determine the optimal temperature for using sulfur chloride by routine experimentation.

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As to claims 42-43, see Bhandarkar, col. 2, lines 45-53 and col. 3, lines 55-67 which indicate that the molecular chlorine will reduce the particles.

Please refer to rejections of Application 09/109827 for any specific details not discussed above.

34-39, 41  
Claims ~~34-41~~ and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhandarkar 5356447 in view of JP 1-164740 (hereinafter 'Kanamori') and Chandross 5240488.

Bhandarkar discloses the invention substantially as claimed, except for any non-oxygenated sulfur halide. Bhandarkar also teaches a step of dehydrating the porous body - prior to the treatment with an oxygenated sulfur halide (see col.2, lines 45-53). For this dehydrating step, Bhandarkar gives chlorine-oxygen as an example of a dehydroxylating treatment.

Kanamori discloses that it is preferred to use  $S_2CL_2$  to dehydrate porous glass. See the English translation, page 7, line 16 and 27; page 6, lines 3-8; the sentence spanning pages 6-7; and the disclosed examples which shows  $S_2CL_2$  as having the best results. It would have been obvious to alter the Bhandarkar method by using the  $S_2CL_2$  mixed with inert gas as the dehydrating gas, for the advantages and reasons put forth by Kanamori. It is inherent that the  $S_2CL_2$  would reduce the size of the particles.

As to the temperature limitations, See the Table at cols 11-12 of Chandross: feature 12 a) discloses the preferred temperature for dehydrating is 500-1000 which is a substantial overlap with Applicant's 400-800 temperature. One of ordinary skill realizes

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that higher temperatures are more expensive than lower temperatures - see feature 13a) of the table. It would have been obvious to do the dehydrating at the lower end of the preferred temperature range (i.e. near 500 C) to reduce the power costs for the process.

Alternatively: col. 2, lines 45-46 of Bhandarkar disclose that the gas treatment occurs while the body is "ranging" from room temperature to whatever final temperature is used. Chandross at feature 11 a) of the TABLE of cols. 11-12 discloses that the removal of volatiles has 500 C as the upper temperature. Claim 1 of Kanamori discloses an upper temperature between 900 and 1100C. It would have been obvious to supply the  $S_2CL_2$  during the entirety of heating from end of the removal of volatiles step to the upper temperature, because it would be a waste of time to wait until later to start the treatment gases. Thus, as the ramping (i.e. ranging) from no more than 500 C to no less than 900C, the preform would be treated as it ranges (i.e. ramps) from 400 to 800C.

Claim 35: As the obvious combination ramps (i.e. ranges) from the starting to final temperature, it would inherently also ramp/range from 600 to 700C.

Claim 36: See Table 1, item 12b) of Chandross - it would have been obvious to perform routine experimentation to determine the optimal amount of time needed to dehydrate the preform.

Claims 37-40 and 44 are clearly met.

Claim 41: The Kanamori uses only a 2% chloride. Chandross teaches at the Table, item 12 c) 1. that one can use 1-100% of the dehydrating agent. It would have

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been obvious to increase the amount of  $S_2CL_2$  used - so as to increase the reaction rate, with no new or unexpected results.

### ***Response to Arguments***

Applicant's arguments filed 11-13-2002 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Bhandarkar teaching that there may be other compounds that remove refractory particles and that it is possible that there is another component that is preferred than the best one that Bhandarkar found (col. 3, lines 64-67) - this provides the required suggestion to search for other agents.

It is argued that since Bhandarkar does not teach using a halogen compound not having a SO- moiety - that such is a teaching against such. This is not accurate, a teaching against requires a teaching at the minimum. It would be like saying because the preceding paragraph makes no mention about saving the rainforests, that it is a

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teaching against saving rainforests. More importantly the Bhandarkar teaching of using boron chloride discloses the use of a compound that does not have an SO- moiety.

IT is further argued that the rejection fails to show that Bhandarkar identifies an unmet need. The relevance of this statement is not understood and does not appear to be relevant to the question of patentability.

It is further argued that Shintani does not teach that refractory oxide particles can be removed with the gases. Shintani indicates that the gases can remove all impurities (col. 2, lines 46-52).

It is argued that the rejection is based on an obvious to try argument. Whereas the present rejection has some aspects which are similar to obvious-to-try arguments, this present case is different. Bhandarkar is blatantly clear that there might be other superior gases. Thus Bhandarkar is clearly suggesting to try other gases. It appears that Applicant is suggesting that there must be a "teaching" to try. The courts are quite clear that there can be a "suggestion" - a full-blown "teaching" is not required.

Although Applicant takes the position that Bhandarkar disclosure is not a "suggestion", it is examiner's position that it is a suggestion.

Regarding the Bhandarkar-Kanamori-Chandross rejection it is argued that combination does not give a process that reduces the size or concentration of the metal oxide particles. There is no explanation or evidence given for this conclusion. Since the combination does what Applicant does, the combination would have the same result

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

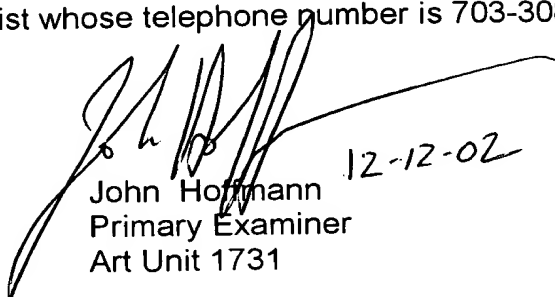
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday through Friday, 7:00-3:30.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-305-3599 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



John Hoffmann  
Primary Examiner  
Art Unit 1731

12-12-02

jmh  
December 12, 2002